

What is claimed is:

1. A structure comprising:
  - a substructure of a first configuration at the base of said structure; and
  - a superstructure of a second configuration directly on top of said substructure;wherein said substructure and said superstructure are constructed from a plurality of poured-in-place concrete tunnels, each tunnel comprising two vertical portions and a horizontal portion.
2. The structure of claim 1 wherein said first configuration is a parking garage and said second configuration is residential space.
3. The structure of claim 1 wherein said superstructure comprises an interface level adjacent to said substructure and at least one other level above said interface level.
4. The structure of claim 3 wherein at least one of said side portions of said interface level is not as long as said vertical portions of said substructure.
5. The structure of claim 1 wherein at least one of said side portions of said superstructure is not as long as said vertical portions of said substructure.
6. A multistory structure constructed of poured in place concrete tunnels, each tunnel comprising two vertical sections and a horizontal section, said structure comprising:
  - a center axis and a perimeter;
  - a first level comprising:

a plurality of said tunnels oriented perpendicular to said axis and extending to said perimeter;

at least one passageway oriented parallel to said axis and extending through said vertical sections so as to provide a drive aisle for vehicles; and

a plurality of bays for parking vehicles; and

a second level comprising:

a plurality of said tunnels wherein said vertical sections are aligned with the vertical sections of said tunnels from said first level and at least one vertical section of said second level does not extend to said perimeter.

7. A method of constructing multistory concrete structures comprising;

constructing a substructure level comprising a plurality of concrete tunnels extending from the center axis of the structure to the perimeter; and

constructing an interface level comprising a plurality of concrete tunnels extending from the center axis of the structure to the perimeter, wherein said interface level is directly above said substructure level, the vertical walls of the tunnels align, and one vertical wall of each tunnel in said first superstructure level does not extend to the perimeter of the structure.

8. The method of claim 7 further comprising the step of:

constructing a second superstructure level comprising a plurality of concrete tunnels above said first superstructure level with tunnels extending from the center axis of the structure

to a distance short of the perimeter, wherein the vertical walls of the tunnels align with the vertical walls of the tunnels of the other levels.

9. The method of claim 7 wherein said substructure level is configured as a parking garage.

10. The method of claim 7 wherein said first superstructure level is configured as residential units.

11. A method of constructing a multistory concrete structure having a center axis and a perimeter, said method comprising:

constructing a first level comprising a plurality of poured in place concrete tunnels, each tunnel comprising two vertical sections and a horizontal section with said vertical sections of said tunnels oriented perpendicular to the center axis of the structure and extending to the perimeter of the structure, said tunnels constructed so that a passageway extends parallel to the axis of the structure through at least two tunnels; and

constructing a second level comprising a plurality of poured in place concrete tunnels, directly attached to said top section of said tunnels in said first level, each tunnel comprising two vertical wall sections and a horizontal section with said vertical walls of said tunnels oriented perpendicular to the center axis and aligned with the vertical walls of the tunnels in said first level, wherein at least one of the walls of at least one of said tunnels does not extend to the perimeter of the building.

12. A method of constructing a multistory concrete structure having a center axis and a perimeter, said method comprising:

constructing a first level comprising a plurality of poured in place concrete tunnels, each tunnel comprising two vertical sections and a horizontal section with said vertical sections of said tunnels oriented perpendicular to the center axis of the structure and extending to the perimeter of the structure, wherein said tunnels are constructed so that a plurality of passageways extend parallel to the axis of the structure to create column members from the vertical portions of the tunnels; and

constructing a second level comprising a plurality of poured in place concrete tunnels, directly attached to the top of said tunnels in said first level, each tunnel comprising two vertical wall sections and a horizontal section with said vertical walls of said tunnels oriented perpendicular to the center axis and aligned with the column members of said first level, wherein at least one of the walls of at least one of said tunnels does not extend to the perimeter of the building.

13. The method of claim 12 wherein said first level is subdivided into bays for parking cars and said passageways include a first passageway that is wide enough to accommodate a drive aisle for a parking garage and a second passageway to provide visual access between said bays.

14. The method of claim 13 wherein said first opening extends to a height less than the full height of the tunnel.